

Amendments to the Claims: This listing of claims will replace all prior versions, and listings, of claims in the application

Listing of Claims:

1. (Currently Amended) A sensor for detecting a gaseous substance resulting from: (1) food spoilage products within food packaging; or the (2) opening of the food packaging; or (3) compromise of the food packaging, the sensor comprising:

a film of comprising a sensor composition, disposed on an internal surface of the food packaging or disposed on a label retained inside the food packaging, which wherein said sensor composition consisting of a metal co-ordinated complex and comprises

a resinous material and

which a metal co-ordinated complex, wherein the metal is selected from the group consisting of palladium, platinum, ruthenium and iron, and wherein the complex, upon exposure to the gaseous substance resulting from (1) food spoilage; or (2) the opening of the food packaging; or (3) the compromise of the food packaging, undergoes a ligand exchange reaction by the binding of the gaseous substance to the metal(s) atom of the complex to release a detectable component by the preferential binding of a gaseous substance to the metal(s) atoms of the complex, wherein the metal is selected from the group consisting of palladium, platinum, ruthenium and iron.

2. (Currently Amended) A sensor according to claim 1, wherein the gaseous substance is selected from the group consisting of at least one of a sulfur-containing compound, a nitrogen-containing compound, an alcohol-containing compound, a carbonyl-containing compound, and a phosphorus-containing compound, and mixtures thereof.

3. (Previously Presented) A sensor according to claim 1, wherein the metal is complexed with a chromophore or fluorophore.

4. (Canceled)

5. (Canceled)

6. (Previously presented) A sensor according to claim 1, wherein the metal complex is a palladium-fluorophore complex.

7. (Previously Presented) A sensor according to claim 6, wherein the complex is palladium-Fluorexon.

8. (Canceled)

9. (Currently Amended) A method of detecting a gaseous substance resulting from (1) food spoilage products within a food packaging; or the (2) opening of the food packaging; or (3) compromise of a packagethe food packaging, comprising the steps step of:

applying a film comprising a sensor composition to an internal surface of the food packaging, package a film of a sensor composition or

inserting a label coated with a-the film of-a comprising the sensor composition to be retained within the packaging,

which wherein the sensor composition consisting of comprises a resinous material and a metal co-ordinated complex, wherein the metal is selected from the group consisting of palladium, platinum, ruthenium and iron, and a resinous material, which complex, upon exposure to the gaseous substance resulting from (1) food spoilage within the food packaging; or-(2) the opening of the food packaging or (3) the compromise of the food packaging, undergoes a ligand exchange reaction to release a detectable component by the preferential binding of a-the gaseous substance to the metal(s) atoms-atom of the complex to release a detectable component, wherein the metal is selected from the group consisting of palladium, platinum, ruthenium and iron.

10. (Currently Amended) A method according to claim 9, wherein food spoilage is detected by the release of the detectable component is a fluorophore or a chromophore released from-a the metal complex through the ligand exchange reaction with the gaseous substance.

11. (Currently Amended) A sensor according to claim 3, wherein the chromophore or fluorophore is selected from the group consisting of fluorescein isothiocyanate, fluorescein, fluoresceinamine, calcein blue, "Fura 2", quinizarin, alizarin complexone, alizarin red, alizarin , isocein, "Quin 2", and 4,4-dihydroxy-azobenzene 3,3-dicarboxylic acid, disodium salt.

12. (Previously Presented) A sensor according to claim 1, wherein the resinous material is polyvinyl alcohol (PVA).

13. (Currently Amended) A sensor for detecting a gaseous substance resulting from food spoilage products within a food packaging, comprising

~~a metal co-ordinated complex disposed in or on a substrate, which complex, upon exposure to the gaseous substance resulting from food spoilage, undergoes a ligand exchange reaction to release a detectable component by the preferential binding of a-the gaseous substance to the metal of the complex to release a detectable component~~, wherein the metal complex is a palladium-fluorophore complex, and

~~a barrier layer adapted to be disposed between the metal complex and the food disposed in the food packaging, wherein the barrier layer is permeable to the gaseous substance resulting from food spoilage products but is not permeable to the metal or the detectable component.~~

14. (Currently Amended) A sensor according to claim 13, wherein the gaseous substance is selected from the group consisting of ~~at least one of~~ a sulfur-containing compound, a nitrogen-containing compound, an alcohol-containing compound, a carbonyl-containing compound, and a phosphorous-containing compound and mixtures thereof.

15. (Previously Presented) A sensor according to claim 13, wherein the metal complex is immobilized in a film.

16. (Previously Presented) A sensor according to claim 15, wherein the film is applied to a label adapted to be retained inside the food packaging.

17. (Previously Presented) A sensor according to claim 13, wherein the metal complex is palladium-Fluorexon.

18. (Previously Presented) A sensor according to claim 13, wherein the substrate is in the form of a film.

19. (Canceled)

20. (Currently Amended) A sensor according to claim 191, wherein the detectable component exhibits appreciable color change only when excited by non-visible light.

21. (Currently Amended) A sensor according to claim 191, wherein the detectable component exhibits appreciable color change under visible light.

22. (Currently Amended) A sensor according to claim 119, wherein the sensor ~~indicates the level of food spoilage by composition comprises a plurality of sensor elements indicia corresponding to that individually indicate an increasing levels level~~ of contamination up to a danger level.

23. (Previously Presented) A sensor according to claim 13 further comprising a resinous material.

24. (Previously Presented) A sensor according to claim 23, wherein the resinous material is polyvinyl alcohol (PVA).

25. (Currently Amended) A sensor according to claim 1913, wherein the sensor is in the form of an adhesive label adapted to be adhered to the interior surface of a portion of the food packaging.

26. (Previously Presented) A sensor according to claim 13, wherein the substrate is polyester.

27. (Currently Amended) A sensor according to claim 13, wherein the food packaging is comprised of a packaging material and the metal complex is incorporated into the packaging material or into part of-a the packaging material.

28. (Previously Presented) A sensor according to claim 15, wherein the film is applied to the interior surface of a portion of the food packaging.

29. (Currently Amended) A method for detecting a gaseous substance resulting from food spoilage ~~products within~~a food packaging, comprising the step of:

applying to the interior of the food packaging a sensor comprising a metal co-ordinated complex, which complex, upon food spoilage, undergoes a ligand exchange reaction ~~to release a detectable component by the preferential binding of a~~the gaseous substance to the

metal of the complex to release a detectable component, wherein the metal complex is a palladium-fluorophore complex.

30. (Currently Amended) A method according to claim 29, wherein the step of applying the sensor to the interior of the food packaging comprises applying the sensor to an internal surface of the food packaging and the method further comprising comprises the step of providing a barrier layer disposed between the metal complex and the food, wherein the barrier layer is permeable to the gaseous substance resulting from food spoilage products-but not to the metal or the detectable component.

31. (Previously Presented) A method according to claim 29, wherein the detectable component exhibits appreciable color change under visible light.

32. (Previously Presented) A method according to claim 29, wherein the detectable component exhibits appreciable color change only when excited by non-visible light and the method further comprises the step of exposing the sensor to non-visible light.

33. (Currently Amended) A method according to claim 29, wherein the sensor indicates the level food spoilage by comprises a plurality of indicia corresponding to sensor elements that individually indicate an increasing level levels of contamination the gaseous substance up to a danger level.

34. (Currently Amended) A method according to claim 29, wherein the step of applying the sensor to the interior of the food packaging comprises adhering the sensor to the an interior surface of a portion of the food packaging.

35. (Previously Presented) A method according to claim 29, wherein the step of applying the sensor to the interior of the food packaging comprises incorporating the metal complex into a packaging material or into part of a the packaging material.

36. (Previously Presented) A method according to claim 29, wherein the metal complex is immobilized in a film and the step of applying the sensor to the interior of the food packaging comprises applying the film to a label and inserting the label into the interior of the food packaging.

37. (New) A sensor according to claim 1, wherein the sensor composition undergoes a complete color change at a predetermined level of gaseous substance as a result of the ligand exchange reaction.

38. (New) A method according to claim 29, wherein the sensor composition undergoes a complete color change at a predetermined level of gaseous substance as a result of the ligand exchange reaction.

39. (New) A method according to claim 29, wherein the sensor further comprises a resinous material.

40. (New) A method according to claim 29, wherein the sensor is applied to the interior of the food packaging in the form of an ink.

41. (New) A method according to claim 40, wherein the step of applying the sensor to the interior of the food packaging comprises applying the ink to a label and inserting the label into the interior of the food packaging.

42. (New) A method according to claim 40, wherein the ink comprises an ink component selected from the group consisting of a drier, a plasticizer, a filler, a surfactant, a pigment, and mixtures thereof.